

TOPCON

INSTRUCTION MANUAL

DATA COLLECTOR

FC-100



Thank you for purchasing the TOPCON Data Collector FC-100.
For superior product performance, please read this instruction manual carefully and keep it in a convenient place for future reference.

GENERAL HANDLING PRECAUTIONS

- Before starting work or operation, be sure to check that the instrument is functioning correctly with normal performance.
- Always make sure instrument is dry before putting it in the soft case. Never store a damp instrument.
- Do not leave the instrument under strong sunlight for a long time. It may cause the instrument to malfunction.
- When waterproofness is necessary, close all the caps securely. However, the serial connector has a waterproof structure, so it will remain waterproof even if its cap is not closed.


DISPLAY FOR SAFE USE


In order to ensure the safe use of this product, prevent any danger to the operator or others, or damage to property, important warnings are placed on the product and inserted in the instruction manual. We recommend that you become familiar with the meaning of these Warnings and Cautions before continuing.


Display	Meaning
 WARNING	Ignoring or disregard of this display may lead to the danger of death or serious injury.
 CAUTION	Ignoring or disregard of this display may lead to personal injury or physical damage.

- Injury refers to hurt, burn, electric shock, etc.
- Physical damage refers to extensive damage to equipment and structure or furnishings.

SAFETY CAUTIONS

 WARNING
• There is a risk of fire, electric shock or physical harm if you attempt to disassemble or repair the instrument yourself. This is only to be carried out by TOPCON or an authorized dealer, only!
• May ignite explosively. Never use an instrument near flammable gas, liquid matter, and do not use in a coal mine.
• High temperature may cause fire. Do not cover the charger while it is charging.
• Risk of fire or electric shock. Do not use a wet battery or charger.
• Battery can cause explosion or injury. Do not dispose in fire or heat.
• To reduce the risk of hazards, use only CSA/UL certified power supply cord set, cord is Type SPT-2 or heavier, minimum No.18 AWG copper, one end is provided with a moulded-on male attachment plug cap (with a specified NEMA configuration), and the other end is provided with a moulded-on female connector body (with a specified IEC non-industrial type configuration).

 WARNING
• The short circuit of a battery can cause a fire. Do not short circuit battery when storing it.
• Battery can cause outbreak of fire. Do not use any other type of charger other than the one specified.
• Risk of fire or electric shock. Do not use any power voltage except the one given on manufacturers instructions.

 CAUTION
• Do not allow skin or clothing to come into contact with acid from the batteries, if this does occur then wash off with copious amounts of water and seek medical advice.
• Do not connect or disconnect equipment with wet hands, you are at risk of electric shocks if you do!
• Do not touch the charger, AC-DC converter or heating part of the instrument for a long period while charging the battery. There is a risk of low-temperature burn.

Exceptions from Responsibility

- 1 The user of this product is expected to follow all operating instructions and make periodic checks of the product's performance.
- 2 The manufacturer, or its representatives, assumes no responsibility for results of a faulty or intentional usage or misuse including any direct, indirect, consequential damage, and loss of profits.
- 3 The manufacturer, or its representatives, assumes no responsibility for consequential damage, and loss of profits by any disaster, (an earthquake, storms, floods etc.), fire, accident, or an act of a third party and/or a usage in other than usual conditions.
- 4 The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits due to a change of data, loss of data, an interruption of business etc., caused by using the product or an unusable product.
- 5 The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits caused by usage other than explained in the user manual.
- 6 The manufacturer, or its representatives, assumes no responsibility for damage caused by wrong movement, or action due to connecting with other products.

NOMENCLATURE AND FUNCTIONS

FC-100

Display and Touch screen

Card slot cap

Enter key

Speaker

Charge LED

Escape key

Cursor keys

Alt key

Home key

Microphone

Connector caps

Power key

Windows key

Hook for handstrap

Stylus pen

Hook for tripod

Hook for handstrap

Cover screw

Battery cover

Installing Handstrap

Handstrap

Card slot side

CF card eject button

CF slot

Hard reset switch

SD slot

Connector side

USB Connector (Mini-B)

Serial Connector

AC adapter Connector

Before closing the cap, bend the button down.

This figure shows the FC-100 with the cap opened.

This figure shows the FC-100 with the cap opened.

Shortcut Keys

Soft Reset	[Alt] + [↑] + [→] Push those keys up for at least 2 seconds.
Shortcut Commands	<div>Continue tapping on an item</div> <div>OR</div> <div>Press [Alt] + tap on an item</div> <div>are the same as a right click on a mouse. A menu is displayed containing commands specific to the item.</div>

CONNECTORS

Serial connector

No.1 → No.5

No.6 → No.9

No.1	DCD	(IN)
No.2	RXD	(IN)
No.3	TXD	(OUT)
No.4	DTR	(OUT)
No.5	GND	
No.6	DSR	(IN)
No.7	RTS	(OUT)
No.8	CTS	(IN)
No.9	RI	(IN)

USB Connector (Type Mini-B)

No.1 → No.5

No.1	VDD
No.2	V-
No.3	V+
No.4	NC
No.5	GND

PREPARATION FOR USE

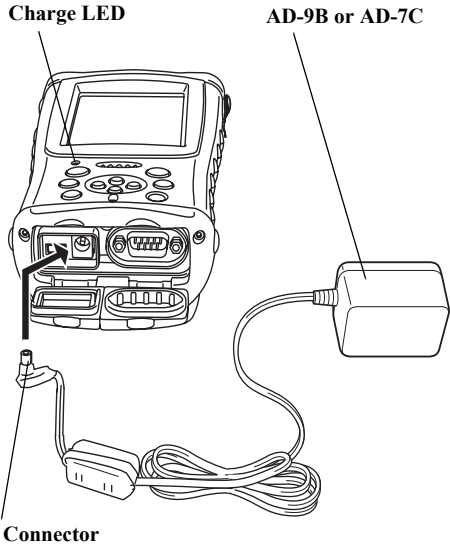
Battery

Battery Charging

- 1 After installing the battery, plug the connector of AD-9B/7C in the FC-100.
- 2 Plug the AD-9B/7C in an outlet. Then the charge LED will light.
- Charging is completed after approximately 5 hours.
- The display can be turned on or off by the power key.

The charge LED of FC-100 will indicate charging status;

- Red ON : Charging.
- Green ON : Charging completed.
- Red Flashing : Charging error.

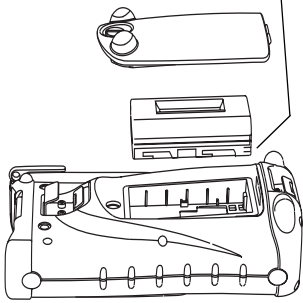


Note: The instrument may develop heat while charging, there is no problem of it.

Battery Installation

- 1 Using a coin, loosen the cover screw on the battery cover.
- 2 Remove the battery cover.
- 3 Install the battery pack.
- (Cconfirm the direction of battery installation.)
- 4 Using a coin, install the battery cover. Tighten the cover screw firmly.

Battery terminal



Replacement of Battery

- When the battery is replaced, the data recorded in memory will be lost.
- To protect the data, first execute “RAM Data Backup”, then replace the battery.

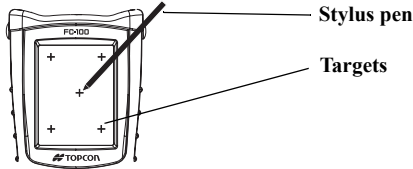
Note

- 1)Recharging should take place in a room with an ambient temperature range of +10°C to +40°C (+50°F to +104°F).
- 2)The battery source will discharge when stored and should be checked before using with instrument .
- 3)Be sure to charge a stored battery source every 7 days and store in a place at 30°C and below when it will not used for a long period. If you allow the battery to be completely discharged, it will have an effect on the overall performance for proper charging in the future.
- 4)The charger may develop heat while charging, there is no problem of it.
- 5)If charging is done at high temperature, charging time of the battery may take longer.

Touch Screen

Adjusting Touch Screen

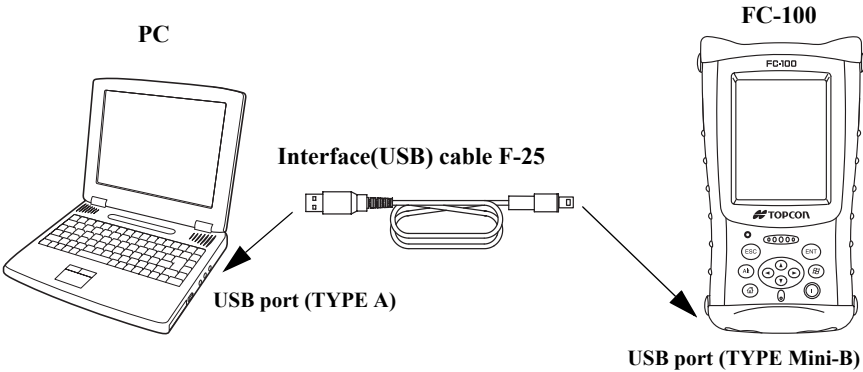
- 1 Turn on the instrument after hard-reset or tap [Start], [Setting], [Control Panel], [Stylus], [Calibration], [Recalibrate].
- 2 Using a stylus pen, touch the center of the target.
- 3 After touching all targets(5 points), press [ENT] key or tap the display.
- (Use an accessory stylus pen to touch a screen. Do not use neither a ball-point pen nor pencil.)



TRANSMISSION DATA TO THE PC

Interface Cable

- 1 Install ActiveSync in your PC (if it is not already installed).
- 2 Connect the FC-100 to your PC with an interface cable F-25 as shown below.



- 3 The FC-100 will give the prompt, “Connecting to Host”.
- 4 The PC will prompt you to set up a partnership or set up as a guest.
- 5 Select the [NO] key to setting up as a guest.
- 6 Press the [Next] key.
- Once a connection has been established, the ActiveSync window will appear on your PC.
- 7 Click the [Explorer] icon. You will then see the FC-100 file structure.

Reference software for Connectivity

See the WEB page as follows.

<http://www.microsoft.com/windowsmobile/>

RAM DATA BACKUP

If your device had not recharged during several days, the battery will be running down, and you would lose all of data on the device other than that in the "CF Card (internal CF card)".

In addition, you might perform hardware-reset by the hardware problem or software problem. In this case, you would lose all data same as the above.

You can use Backup function of FC-100 in order to evade such kind of uneasiness. Your data will be restored to latest condition* automatically when rebooting by using the Backup function.

The Backup function saves all data files of RAM (except for OS files), registry file and additionally installed programs into named "Backup" folder in the "CF Card".

- * Restoring former backed up data may be incomplete if you upgrade OS version.
- * The conditions that you executed the backup function last.

Execute the Backup function

- 1 Tap the icon "Start"->"Settings"->"Control Panel"->"System"->"Backup". You can see the "RAM Backup" screen on Display.
- 2 Tap the "Backup" button. Backup function will start. Return to "RAM Backup" screen automatically, when the data back up has been completed.
- 3 Tap the button "OK" on title bar. After that "RAM backup" screen will close automatically.

- * Backing up data may be incomplete if remaining capacity of "CF Card" is not enough.
- Please make sure the remaining capacity of "CF Card" before proceeding to the data back up.
- * Restoration will be impossible if you delete the "Backup" folder in the "CF Card".

Set the Automatic Backup for every suspension

- 1 On the "RAM Backup" Screen, please check it 'ON' "Ram data will be backed up before suspension".(Factory setting is 'OFF' as default)
- 2 Tap the button "OK" on title bar. After that, "RAM backup" screen will close automatically.

Set the restoration disabled after hard reset

- 1 On the "RAM Backup" Screen, check it 'OFF' the "Data restoration after hard reset."
- (Factory setting is 'ON' as default)
- 2 Tap the button "OK" on title bar. After that, "RAM backup" screen will close automatically.

STORAGE PRECAUTIONS

- Always clean the instrument after use.
- Use a clean cloth moistened with neutral detergent or water.
- Never use an abrasive cleaner, ether, thinner benzene, or other solvents.
- Always make sure the instrument is completely dry before storing. Dry any moisture with a soft, clean cloth.

EMC NOTICE

In industrial locations or in proximity to industrial power installations, this instrument might be affected by electromagnetic noise. Under such conditions, please test the instrument performance before use.

FCC conditions

This device complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

SPECIFICATIONS

Microprocessor	: XScale PXA 255
Processor speed	: 400MHz
Operating system	: Microsoft® Windows® CE.NET 4.2
Memory	: 64MB RAM
	64MB/128MB flash disc (internal)
Display	: 240x320 QVGA (color)
	3.5 inch TFT Transflective type
Illumination	: LED back light
Keyboard	: 10 keys (“power key” included)
Pen touch screen	: Resistive touch screen/passive Pen digitization
Interface	: RS-232C serial (D-sub 9)
	USB(Rev1.1)(Mini-B)
	CompactFlash : Type I /II
	SD Memory card
External power	: 12V 1A(MAX)
Audio	: Sealed Speaker (mono) Sealed Microphone
Durability	: IP66 (Based on the standard IEC 60529) *1)
	*1) With the connector and card slot caps
Operation temperature	: -20°C to +50°C (-4°F to +122°F)
Storage temperature	: -30°C to +60°C (-22°F to +140°F)
Protection against shock	: Dropping this instrument from a height of 1 meter does not affect its functions.
	Conditions:
	Each of the instrument’s 6 sides was dropped onto a concrete surface, and the instrument’s operation was then confirmed.
	Only the exterior of the instrument was damaged.
EMC	: CE, FCC
Battery BT-62Q	: Li-ion rechargeable Battery 7.4V 2200mAh
	(This battery does not contain mercury.)
Operating time	: 20 hours (Typical use)
	45 hours (With no display light, no touch)
Charging time	: Approx. 5.0 hours with AD-9B/7C
Dimensions	: 182x103x59(mm)
Weight	: 0.6kg(with battery)

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